

What is claimed is:

1. A method for controlling a device interconnected to a host system by a single ATA bus, comprising:

assigning an identifier to at least a first device; and

5 issuing a selection command to said at least a first device over data lines provided as part of said single ATA bus, wherein said selection command comprises said identifier assigned to said first device, and wherein in response to receiving said selection command said first device prepares to receive at least one of a command other than a selection command and data over said data lines.

2. The method of Claim 1, further comprising interconnecting at least three devices to said host system using a modified ATA bus having interconnections for said at least three devices.

3. The method of Claim 1, further comprising assigning a different identifier to each of a plurality of devices, wherein each of said plurality of devices receives said selection command, and wherein in response to receiving said selection command each of said plurality of devices other than said selected first device disconnects itself from said  
5 data line.

4. The method of Claim 3, wherein each of said plurality of devices other than said selected first device disconnects itself from to databus by presenting a high impedance to said data lines.

5. The method of Claim 1, wherein said selected first device acknowledges its selection by asserting an acknowledgment signal over a signal line provided as part of said single ATA bus.

6. The method of Claim 1, further comprising passing to said selected first device at least one of said command other than a selection command and said data over said data lines.

7. The method of Claim 1, wherein said step of assigning an identifier comprises setting jumper switches provided on an exterior of said at least a first device.

8. The method of claim 1, wherein said step of assigning an identifier composes setting software switches provided by firmware controlling operation of said at least a first device.

9. The method of Claim 1, wherein said at least a first device comprises at least one of a computer storage device, and a computer input-output device.

10. The method of Claim 1, wherein said at least a first device comprises at least one of hard disk drive, a floppy disk drive, a CD ROM drive, a DVD drive, and a tape drive.

11. The method of Claim 1, wherein said data lines are physically distinct from said signal lines.

12. The method of Claim 1, wherein as many as 256 devices may be interconnected to said single ATA bus.

13. The method of Claim 1, wherein as many as 8 devices may be interconnected to said single ATA bus.

14. The method of Claim 1, wherein said selected storage device asserts a selected signal after receiving said selection command and after confirming that no other storage device is asserting said selected signal.

15. The method of Claim 14, wherein said selected signal is a PDIAG signal.

16. The method of Claim 1, wherein said selected storage device asserts a first selected signal and a second selected signal after receiving said selection command.



21. A method for functionally interconnecting at least three storage devices to a host system using a single ATA bus channel, comprising:

interconnecting said at least three storage devices to said ATA bus channel, wherein said ATA bus channel is provided with interconnections for at least three storage devices;

selecting one of said at least three storage devices, wherein said step of selecting is performed by providing a first command comprising a selection command from said bus controller to all of said at least three storage device over data lines provided as part of said ATA bus channel; and

issuing from said bus controller a second command to said selected storage device, wherein said at least one of a command or data is received by said selected storage device.

22. The method of Claim 21, further comprising assigning a different identifier to each of said at least three storage devices, wherein each of said at least three storage devices receives said selection command, and wherein in response to receiving said selection command each of said at least three storage devices other than said selected one disconnects itself from said data lines.

23. The method of Claim 22, wherein each of said at least three storage devices other than said selected one disconnects itself by presenting a high impedance to said data lines.

24. The method of Claim 23, wherein said step of assigning an identifier comprises setting jumper switches provided on an exterior of each of said at least three storage devices.

25. The method of Claim 22, wherein said step of assigning an identifier comprises setting software switches provided by firmware running on said storage devices.

26. The method of Claim 21, further comprising issuing a selection confirmation signal from said selected one of said at least three storage devices to said bus controller using a signal line provided as part of said ATA bus channel.

27. The method of Claim 21, wherein said at least three storage devices comprise at least one of a computer storage device, and a computer input-output device.

28. The method of Claim 21, wherein said at least three storage devices comprise at least one of hard disk drive, a floppy disk drive, a CD-ROM drive, DVD drive, and a tape drive.

29. The method of Claim 21, wherein said data lines are physically distinct from said signal lines.

30. The method of Claim 21, wherein as many as 256 devices may be interconnected to said ATA bus channel.

31. The method of Claim 21, wherein as many as 8 devices may be interconnected to said ATA bus channel.

32. The method of Claim 21, wherein said selected one of said at least three storage devices asserts a selected signal after receiving said selection command and after confirming that no other storage device is asserting said selected signal.

33. The method of Claim 32, wherein said selected signal is a PDIAG signal.

34. The method of Claim 21, wherein said selected storage device asserts a first selected signal and a second selected signal after receiving said selection command.

35. The method of Claim 34, wherein said first selected signal comprises a PDIAG signal and wherein said second selected signal comprises an INTRQ signal.

36. The method of Claim 21, wherein said bus controller controls access to said ATA bus channel.

37. A method for providing a device capable of being interconnected to an ATA bus channel together with two or more other devices, comprising:

assigning a selection identifier to said device;

in response to receiving a selection command on at least a first data line

5 connection pin, comparing an identifier received with said selection command to said assigned identifier, wherein said device is selected if it has an assigned identifier that matches said received identifier is selected, and wherein said device is not selected if it has an assigned identifier that does not match said received identifier.

38. The method of Claim 37, wherein said device asserts a selection acknowledgment signal on at least a first signal line connection pin provided on said device if it is selected.

39. The method of Claim 37, wherein said device disconnects said data line connector pins from said ATA bus if it is not selected.

40. The method of Claim 37, wherein said device comprises a computer data storage device.

41. The method of Claim 40, wherein said computer data storage device comprises at least one of a hard disk drive, a solid state storage device, a floppy disk drive, a CD-ROM drive, a DVD drive, and a tape drive.



42. The method of Claim 37, wherein said device is not an SCSI device.

43. The method of Claim 37, wherein a selection command may be issued at any time, and need not be issued during a selection phase

44. A computer communication bus, comprising:  
a controller having at least a first ATA bus channel connector; and  
a plurality of devices wherein said devices are interconnected to said controller  
over an ATA bus channel having a terminal for interconnecting said channel to said  
5 controller and having a plurality of device terminals for interconnecting said channel to  
said plurality of devices, wherein said controller is capable of sending a selection  
command to said plurality of devices over said data lines.

45. The computer communication bus of Claim 44, wherein in response to  
receiving said selection command a non-selected device included in said plurality of  
devices presents a high impedance to said data lines provided by said ATA bus channel.

46. The computer communication bus of Claim 44, wherein said controller  
asserts control over access to said ATA bus channel.

47. The computer communication bus of Claim 44, wherein each of said  
plurality of devices are encoded with a different identifier, and wherein a one of said  
plurality of devices is selected if said selection command comprises said identifier of said  
one of said plurality of devices.

48. The computer communication bus of Claim 44, wherein as many as eight  
devices may be interconnected to said controller.

